DATA CENTER OPERATIONS BRANCH

NDS OPERATIONS PROCEDURE MANUAL
NO. P-C006

SYSTEMS SW & HW
13 April 1983

COMMUNICATIONS SYMBOINT PROCESSOR

SYMBOLIC TITLE: CSP
ORIGINATOR:

STAT

P-C006

PSG/CSD/PB-023/82
26 May 1982

MEMORANDUM FOR: Chief, Data Center Operations Branch, CSD/PSG/NPIC

FROM   :   STAT

              Chief, Programming Branch, CSD/PSG/NPIC

SUBJECT   : Operating Instructions For C/SP

    1. Attached is Section 15 of the 1100 Executive System Operator Reference
(UP-7928) manual that we have annotated for our specific use at NPIC.
Section 15 pertains to the operation of the C/SP. There are only two areas
that are different, the loading of the C/SP operating system and the printing
of a C/SP dump. The differences in these two area are explained in the attach-
ment and references made in the body of the document.

    2. Please make the appropriate changes to all copies of the document that
you hold.

                                                      STAT

NOTE 1: The key in "ST CSPLOAD" will catalog and load the runstream containing the C/SP Operating System. The following is the code contained in the Runstream CSPLOAD. CSPLOAD is contained in the file SYS$*RUN$.

```
@RUN CSPLOI,S27740035/UNIVAC,SIS$
@DELETE,C CSPLIB$
@MSG PLEASE MOUNT CURRENT IPL TAPE¹
@ASG,T IPL,U9V,CURIPL
@ASG,CPRGV CSPLIB$
@COPIN IPL,CSPLIB$
@FREE      CSPLIB$
@MSG IPL FILE FOR C/SP'S IS LOADED
@SYM,D PRINT$
```

1
   This IPL tape is a copy of the release tape provided
   by SPSS. The copy should be backed up and stored in
   a convenient location by DCOB.

NOTE 2: In place of the key in "ST CSPLIB$.DUMP/CUNAME...ACNT#" for convenience the key in "ST CSPDUMP" may be used, CSPDUMP is contained in the file SYS$*RUN$. The following is contained in the RUNSTREAM CSPDUMP:

```
@RUN,A/R CDUMP,UNIVAC/UNIVAC,CSP$DUMP#036,10,200
@MSG,W    TYPE OF C/SP ERROR OR REASON FOR DUMP?
@MSG   NUMBER OF DEMAND,TIP TERMINALS,IPLS,AND
@MSG,W    OTHER PERTINENT INFORMATION?
@MSG,W    SOFTWARE SYSTEM, SESSION NO.?
@MSG,W    IF CSP RED LIGHT STOP, GIVE ADDRESS
@MSG,W    AUTHORIZATION AND OPERATOR?
@MSG   PLEASE ATTACH APPROPRIATE CONSOLE SHEETS
@SYS$*CSPLIB$.DUMPER,XVC
@PMD,PE
@PRT,I
```

15. C/SP Operation and Console Messages

15.1. General

The UNIVAC Communications/Symbiont Processor (C/SP) provides onsite symbiont and remote communications facilities for the Series 1100 Executive System. This section describes the procedures required to operate the C/SP in this environment.

15.2. Loading the C/SP

To load the C/SP from the Series 1100 Executive, a file must be cataloged which contains the C/SP Operating System.

The host system operator must set the Inter-Computer Adapter (ICA) channel online and in Initial Program Load (IPL) mode. The data switch on the C/SP maintenance panel must be set to select the channel number of the ICA.

The host system operator then presses the following switches on the C/SP maintenance panel in the prescribed order:

1. System clear

2. Load

3. Run

The following message should appear on the Series 1100 System's console:

   C/SP IPL ON *cuname* SNDT

The operator should reply as described in Table 15-2.

The message:

C/SP *cuname* READY LEVEL *id*

should appear on the Series 1100 System's console when the C/SP load is complete and successful. If the IPL message does not appear, the reason may be:

1. The ICA was not online or in IPL mode.

2. The Series 1100 System's channel connected to the ICA was down.

3. The C/SP control unit was down.

If the READY message does not appear after about 30 seconds, the reason may be:

1. The proper data switch on the C/SP maintenance panel was not set.

2. An error occurred during the load.

3. An error existed on the cataloged file containing the C/SP system.

If any of the above situations occur, the load procedure must be repeated from the beginning.

15.3. C/SP Dumps

15.3.1. Manual Dumping of the C/SP to the 1100 System

To manually dump the C/SP to a host system mass storage file, the same procedure is used as described in steps 1, 2, and 3 in 15.2. The D response to the message:

C/SP IPL ON *cuname* SNDT

as described in Table 15-2 should be used.

The message:

C/SP DUMP TAKEN: FILE *filename* SAVE? YN

where *filename* is of the form:

CSPDMP*cuname**mmddyyhhmmss

with *mmddyy* being the month, day, and year, and *hhmmss* being the hours, minutes, and seconds when the dump was taken. This appears on the Series 1.100 System's console when the C/SP dump is successfully completed.

The printing and editing procedures for C/SP dumps are described in 15.3.3.

15.3.2. Online Dumping of the C/SP to the Host System

The PC D unsolicited keyin can be used to request an online C/SP dump from the C/SP operating system. The PC D keyin has the form:

PC D $cuname$ [n_s n_e]

The bracketed information [n_s n_e] is optional.

This unsolicited keyin allows the system operator to take an online dump of the C/SP. Either the entire storage of the C/SP or just a specified segment, from n_s n_e, will be dumped to the host system, depending on the form of the keyin used.

The printing and editing procedures for C/SP dumps are described in 15.3.3.

15.3.3. Printing an Edited C/SP Dump

A user program is used to analyze the C/SP raw dump file created by the procedures described in 15.3.1 and 15.3.2. This user program is usually contained in the same file that is used to load the C/SP.

To start the C/SP dump analysis, key in:

~~ST CSPLIB$.DUMP/cuname.,,account#~~   ST   CSPDUMP

The C/SP dump analyzer will respond with:

TYPE OF C/SP ERROR OR REASON FOR DUMP?

The reason the dump was taken should be entered here.

Next, the C/SP raw dump file (CSPDMP $cuname$ * $mmddyyhhmmss$) to be analyzed is requested by:

ENTER FILENAME OF C/SP DUMP TO PRINT

The entire filename, CSPDMP $cuname$ * $mmddyyhhmmss$, of the C/SP raw dump to be analyzed is then entered. The filename response may be simplified by dropping the CSPDMP $cuname$ portion of the name if the start keyin used to initiate the C/SP dump analyzer specified the same version name ($cuname$) as used in the raw dump filename. Also, only the last four digits ($mmss$) of the C/SP raw dump filename may be entered if the C/SP dump analyzer was started with the correct version name within the same hour as the C/SP raw dump was taken.

After the C/SP raw dump filename has been entered, the analyzer will request the host filename for the C/SP system that was in use when the C/SP dump was taken. The format of this message is:

ENTER C/SP IPL FILENAME THAT WAS LOADED WHEN DUMP WAS TAKEN OR S FOR STANDARD OR N IF NONE

The C/SP raw dump analyzer will then proceed to analyze and create an edited version of the C/SP dump.

15.4. C/SP Unsolicited Keyins

A number of unsolicited operator keyins are available to ascertain information about or to control the C/SP operating environment. Some of the keyins control host actions and some control C/SP actions. These keyins are described in Table 15-1.

Table 15-1. C/SP Control Keyins

Keyin	Parameter		Description
PC A *luname c dd*	*luname*	– is the *linename* for a communications line or the *unit name* for an onsite device.	This unsolicited console keyin allows the operator to unplug a bad CLT from its modem (at the modem end) and plug in a
	c	– new C/SP channel number of the GPCC	new CLT without interfering with terminal operations. The keyin is used to inform the
	dd	– new device address on the GPCC	C/SP operating system of the change.
PC B *cuname* [ON] PC B *cuname* [OFF] PC B ALL [ON] PC B ALL [OFF]	*cuname* ON OFF	– C/SP control unit name – indicates that auto IPL is desired – indicates that auto IPL is not desired – If neither ON or OFF is specified, requests current selection state.	This unsolicited console keyin allows the operator to specify the type of automatic IPL (BOOT) that is desired.
PC C *cuname,k*	Same as PC M		Cancels the C/SP program key.
PC D *cuname* [n$_s$ n$_e$]	*cuname* n$_s$ n$_e$	– is the C/SP control unit name. – n$_s$ and n$_e$ indicate the starting and ending hexadecimal addresses for a partial C/SP dump. If the starting and ending address are omitted, a full C/SP dump is taken.	This unsolicited keyin allows the system operator to take an online dump of the C/SP. Either the entire memory of the C/SP or just the specified segment, from n$_s$ to n$_e$, will be dumped to the host system, depending on the form of the keyin used.
PC I *cuname*	*cuname*	– the C/SP control unit name.	This unsolicited console keyin allows the operator the capability to request the C/SP to issue an IPL (BOOT) function. The IPL function is the same as if the operator presses the SYSTEM CLEAR, LOAD, and RUN switch on the C/SP.
PC L *cuname,k* *filename.element name*	*cuname* *filename* *element name*	– the C/SP control unit name. – the filename of the cataloged C/SP program. – the element name of the C/SP program.	This unsolicited console keyin allows the operator to load a program to be executed on the C/SP.
PC M *cuname, k text*	*cuname* *k* *text*	– the C/SP control unit name. – program key (1–7) – text of message	Sends a message to the C/SP.

Table 15-1. C/SP Control Keyins (continued)

Keyin	Parameter		Description
PC O *luname* [ON] PC O *luname* [OFF]	*luname*	– is the *linename* for a communications line or the *unit name* for an onsite device.	This unsolicited keyin allows the system operator to determine the status of the C/SP line and alter that condition if necessary. The system responds with the status of the line as follows:
	ON	– indicates that the corresponding C/SP line should be marked online.	
	OFF	– indicates that the corresponding C/SP line should be marked offline.	*luname* OWNED BY KEY *k* IS ONLINE *luname* OWNED BY KEY *k* IS OFFLINE *luname* OWNED BY KEY *k* IS ACTIVE ON HOST *h* *luname* ONLINE NOT AVAILABLE *luname* NOT CONFIGURED where: *k* is the C/SP key directing the line, and *h* is the host number configured within the C/SP.
PC S *cuname*	*cuname*	– the C/SP control unit name.	This unsolicited keyin allows the system operator to inquire as to the state of the C/SP. The system responds with either *cuname* C/SP IS LOADED and the level of C/SP software in use or *cuname* C/SP IS NOT LOADED. In either case, the state of the C/SP auto IPL flag will be returned, either ON or OFF.
PC T *cuname*	*cuname*	– the C/SP control unit name.	This unsolicited console keyin allows the operator the capability of setting the *time* and *date* on the C/SP.

NOTES:

1. *Capital letters must be entered as shown.*
2. *Brackets indicate an optional field, and braces indicate two or more alternatives.*

15.5. Symbiont Control Program Error Messages

The Symbiont Control Program (SCP) displays various error messages on the Series 1100 System's operator console in order to inform the operator of malfunctions related to the 1100-C/SP interface.

The types of messages are:

▪ ASSIGN ERROR

▪ CONTROL ERROR

▪ DEVICE NUMBERING ERROR

▪ TIMEOUT ERROR

The standard response for the error messages are:

N – No

Y – Yes

If the error recurs following a recovery attempt (Y response), then the following procedure is recommended:

1. Respond yes (Y) to the recovery message.

2. Offline the device.

3. Online the device.

Errors that will not clear or that occur frequently are symptoms of system generation discrepancies or hardware malfunctions.

15.5.1. Assign Error

The SCP assigns each supported device during program initialization, and during device down/up requests.

Assign status is specified by a condition code (cc) setting. If the SCP finds the assign is in error, it displays the following console message:

name ASSIGN ERROR ∗∗ ac . RETRY? YN

where:

name is the symbiont name

a   is the assign function:

1 – Down device
2 – Assign device
3 – Up device
4 – Reserve device

c   is the condition code:

1 – Invalid device number.

The device number is the channel/unit number. The channel/unit number must be the same as defined at system generation time (PUB and PCT generations).

2 – Device down

3 – Device not available

An answer of Y will attempt to retry the assign function.

An answer of N will disregard the assign function. The device assignment is not changed.

15.5.2. Control Error

Device input/output is controlled by the coordinated functioning of the 1100-C/SP interface.

A control error is indicated when a 1100-C/SP input/output message cannot be logically handled. The error may be caused by an ICA hardware error, a system generation error, a C/SP hardware error, or a system reboot (IPL).

If the SCP encounters a control error, it displays the following console message:

> *name* CONTROL ERROR** *c, id* RECOVER? YN

where:

name   is the symbiont name

c   is the error code:

> 14 – The C/SP has received a host system output function for which it is unprepared. The program is not ready to handle the output message.

> 15 – The device initialization has been terminated. The C/SP device status does not agree with the host system device status, i.e., 1100 facility status down, C/SP status up.

> 16 – The C/SP has received an illegal 1100 System output function. The message identification numbers are erroneous.

> 4C – The ICA handler has detected an output error. The error codes (C) are described in the C/SP host handler–user document.

> 8C – The ICA handler has detected an input error. The error codes (C) are described in the C/SP host handler–user document.

id   is the host system message identification number described on the C/SP release tape. Field 2 is the first two digits in the number. Field 1 is the last two digits in the number. The digit code is hexadecimal. The numbers define the 1100-C/SP input/output message, and are useful in error analysis.

An answer of N will disregard the error. The device status is unchanged. The program will attempt to continue device activity.

An answer of Y will attempt to initialize (recover) the device. Input will be terminated. Output will be requeued. Device will be locked out.

15.5.3. Device Numbering Error

The 1100-C/SP interface uses two logical unit numbers (LUN) to reference a device.

A LUN error is indicated when a 1100-C/SP input/output message contains an illegal LUN. A bad LUN could result from a system generation error or a hardware error.

If the SCP encounters a LUN error, it displays the following console message:

name DEVICE NUMBERING ERROR ** *id* ABORT? YN

or

luname DEVICE NUMBERING ERROR ** *id* ABORT? YN

where:

name is the symbiont name.

luname is the *unit name* for the onsite device. If the message specified a communications line, the *linename* will be used. If nothing was configured for the logical unit specified, the logical *logical unit number* will be displayed.

u is the device logical unit number.

id is the 1100-C/SP message identification number in the READY LEVEL *id* message (see 15.2).

An answer of N will disregard the error. The program will attempt to continue device activity.

An answer of Y will terminate the SCP. The program can be reloaded by a PC keyin (see Table 15-1).

15.5.4. Timeout Error

Events are timed in order to detect hardware errors, or software binds.

If an event fails to complete within a reasonable period of time, the SCP displays the following console message:

name TIMEOUT ERROR** *c, ecod* RECOVER? YN

where:

name is the symbiont name.

c is the TIMEOUT code:

01 - A logical event was not completed within the timed interval.

ecod is the logical event code:

4000 -Requested PRINT$/PUNCH$ file, waiting for host system output.
2000 -Requested buffer, waiting buffer release.
1000 -Requested file data (output) or requested file transfer (input), waiting for host system input/output.
0400 -Requested device I/O, waiting interrupt.
0200 -Requested run statement validation, waiting for host system output.
0100 -Requested device translation table, waiting for host system output.
0001 -Requested device initialization, waiting for host system output.
0002 -Requested device termination, waiting for host system output.

An answer of N will disregard the timeout, and reset the timer.

An answer of Y will attempt to initialize (recover) the device. Input will be terminated. Output will be requeued. The device will be locked-out.

15.5.5. Host Name Reject

In a multiple host environment, each host computer connected to the C/SP is given a name at system generation time.

A given host may be selected for each batch run read by an onsite input device by means of an @@HOST *xxxxxx* control image, which precedes the @RUN statement. If @@HOST image is not used, a default host is selected, which is also set at system generation time. The host name is specified in parameter field-1 of the @@HOST image.

If the host name is incorrect, the SCP displays the following image:

> *name* HOST NAME REJECT   AT

An A response causes the symbiont to read another image. Presumably, the operator will have corrected the error on the @@HOST image and replaced it in the input hopper before entering the A response. Otherwise, when the @RUN image is encountered, the default host will be selected.

The T response terminates the device.

15.5.6. Host Sign On Reject

After determining which host is specified by a given runstream, and if the input device is not already signed on to that host, the SCP attempts to sign on. If the sign on is not accepted by the host, the SCP displays the following message on the console:

> *name* HOST SIGNON MESSAGE – RETRY?   YN

On a Y response, the SCP retries the sign on.

The host will reject a sign on for either of the following reasons:

- the device is locked out (SM *name* L), or

- an error occurred in the system generation (logical unit numbers on the C/SP and host system do not agree; symbiont cards on the host system build are incorrect; etc.).

In the former case, enter SM *name* I to initialize the device and then answer Y.

In the latter case, consult systems personnel.

On an N response, the run is ended and the symbiont enters RUN SEARCH mode. One of the reasons for a host sign on reject is the buffer pool is tight (no buffers available).

15.6. C/SP Console Messages

The C/SP console messages are given and described in Table 15-2.

Table 15-2. C/SP Console Messages

Message	Description
cuname C/SP ERROR*xx*	The C/SP on control unit *cuname* encountered the fatal error described by *xx*. *xx* - Two digit Program Machine Check (PMC) code: 01 = power failure 02 = parity error 04 = invalid operation 05 = privileged operation 06 = storage protection 07 = invalid address 08 = PMC interrupt (S) 09 = RDF error 10 = software monitor
C/SP IPL ON *cuname*. SNDT	An IPL function has been received for the C/SP on *cuname*. The responses are: S - use the standard C/SP system file to load the C/SP (SYS$*CSPLIB$). N *filename* - use the nonstandard file SYS$ *filename* to load the C/SP. D *filename* - take a full dump of the C/SP. *filename* is optional and need not be specified. The dump routine is loaded from SYS$*CSPLIB$, or from CSPDUMP$ if *filename* is omitted. Otherwise, the dump routine is loaded from SYS$ *filename*. CSPDUMP$. T - terminate and discard this request.
filename TO BE USED FOR C/SP AUTO RECOVERY? YN	The file, *filename*, has been specified to be used in loading the C/SP. This message asks the system operator if the specified filename should be saved to be used in auto-loading of the C/SP. Y - yes, use this filename for any future auto-loads. N - do not use this filename for C/SP auto-loads.
C/SP *cuname* IPL ON *path*, PATH NOT ALLOWED	An IPL function was received from C/SP *cuname* over a hardware path which is not available. The IPL operation is terminated.
C/SP *cuname* AUTO RECOVERY FILE NOT AVAILABLE	An auto-program load function for control unit *cuname* failed in attempting to find the C/SP system filename saved for auto-reload functions.
C/SP *cuname* LOAD ASG ER *ffffffff* ON *filename*	A load function for C/SP control unit *cuname* has encountered a facility error. A facility status of *ffffffff* was encountered while attempting to attach a use name to or attempting to assign the file *filename*.
C/SP *cuname* LOAD PFS ER *nn* ON *filename.eltname*	A load function for C/SP control unit *cuname* has encountered a table of contents search error (PFS) *nn* on *filename.eltname*.

Table 15-2. C/SP Console Messages (continued)

Message	Description
C/SP *cuname* LOAD I/O ER *nn* ON *filename*	A load function for C/SP control unit *cuname* has encountered an I/O error while trying to read the file filename. The same message is used if an I/O error occurs while the operating system is attempting to write an updated version of the C/SP autorecovery file to mass storage.
C/SP *cuname* LOAD ABORTED	This message indicates that a C/SP load function for control unit *cuname* has been aborted. This condition results from: 1. The path to the C/SP has become unavailable for output, i.e., channel down or new IPL function received, 2. The C/SP supervisor has not indicated the "heart beat" (probe) sequence properly, or 3. The C/SP is rejecting the output block.
C/SP *cuname* ICA ERROR *xxxxxx*, *path* AG C/SP *cuname* TIMEOUT, *path* AG	These messages occur when the C/SP-ICA handler encounters an error condition that requires operator intervention. The C/SP control unit name, *cuname*, and the channel status word *xxxxxx* are displayed along with the hardware path information *path*. *path* is of the form: *p/hh* – For non-1100/80 systems. *p* represents the CAU/CPU number and *hh* the channel number. *i/cc/ddd* – For 1100/80 systems. *i* represents the IOU number, *cc* the IOU channel address, and *ddd* the device address. The response is: A – Try again, attempt to clear the error condition and continue operation. G – Accept the condition and continue.
ILLEGAL C/SP FUNC 2211 ON *cuname/luname-aa*	An illegal or undefined software function has been received from the C/SP. The decimal values of the FIELD2 (22) and FIELD1 (11) QCIO function codes received are displayed, along with the respective control unit name *cuname*, line or device name *luname*, and station number *aa*. *luname* will be either the linename for a communications line, the device name for an onsite symbiont device, or a logical unit number if nothing is configured for this C/SP path.
C/SP *cuname* READY – LEVEL *id*	This message occurs when the C/SP OS establishes connection with the 1100 EXEC (after being loaded or going through recovery). *cuname* – C/SP control unit name. *id* – C/SP OS level ID
C/SP *cuname* NO HEARTBEAT AT	This message occurs when the C/SP OS on control unit *cuname* fails to respond to a "heartbeat request" from the 1100 EXEC. (The "heartbeat" is used to determine if the C/SP OS is still operating.) A – attempt to reestablish connection. T – terminate C/SP related activity on C/SP *cuname*.
cuname C/SP PMC ERROR – *cc*	This message occurs when a Program Machine Check (PMC) interrupt is received from C/SP *cuname*. *cc* is the PMC code passed by the C/SP.

Table 15-2. C/SP Console Messages (continued)

Message	Description
C/SP AUTORECOVERY FILE REINITIALIZED	The C/SP auto recovery (IPL) file has overflowed. The file has been reinitialized with all previous entries being deleted.
C/SP AUTORECOVERY FILE DELETED	An I/O error occurred while accessing the C/SP auto recovery (IPL) file. The file has been deleted and must be reinitialized with another IPL request.
C/SP *cuname* FORCED ACK ON UNIT *luname*, KEY=*k*	The C/SP key *k* on control unit *cuname* has not responded to a message from the host operating system for unit *luname*. The host has forced a response and proceeded with the next message for the unit.
name C/SP I/O ERROR *xxxx* ETQ	An error status *xxxx* detected on device *name* was in progress. The responses are: E – end the output file T – terminate the device (lock out) and end the output file Q – lock out the output device and requeue the output file
cuname C/SP *c* PROGRAM TERMINATED: REV = k, PSW = a/b, ERROR = e	The C/SP program identified by KEY k on C/SP *cuname* has terminated. The PSW and ERROR codes are printed if available.
C/SP RAW DUMP TAKEN FNAME *qual*file*.	A C/SP raw dump has been taken and is in the specified file *qual*file*.
SAVE? (Y or N) NAME *qual*file*.	The operator is requested to determine whether or not the C/SP dump just taken should be saved for processing. The responses are: Y – save the file. N – do not save the file.
C/SP OPEN ERROR LINE *xx* *cc* = Y	C/SP communication complex is unable to open a communications line for usage on the GPCC at system initialization. Indication of CLT hardware problem. *xx* – C/SP logical unit number. Y=3 – Device not available
C/SP ASGN ERROR LINE *xx* *cc* = Y	C/SP communication complex is unable to assign indicated line for usage. Indication of misconfiguration on C/SP. *xx* – C/SP logical unit number. Y=1 – Invalid device number. Y=2 – Device down. Y=3 – Device not available.

SPERRY÷UNIV. C

SOFTWARE CLASSIFICATION NOTICE
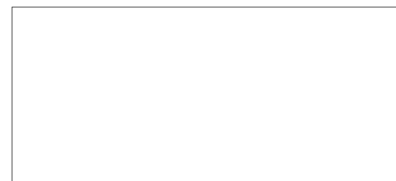## SERIES 1100 SOFTWARE PRODUCTS

DATE: 1982 Jan 29

To: SRA Distribution

The attached documentation concerns pricing classifications of Series 1100 software products and is provided for your information and reference.

The documentation consists of five tables. Each table lists Series 1100 software products by name and provides additional data associated with those products according to one of the following classifications:

Table 1: Series 1100 System Program Products separately priced for unbundled contracts but provided as Programming Aids for bundled contracts at no additional charge.

Table 2: Series 1100 System Program Products separately priced for both bundled and unbundled contracts.

Table 3: Series 1100 Applications Program Products separately priced for both bundled and unbundled contracts.

Table 4: Series 1100 System Control Software provided as Programming Aids for both unbundled and bundled contracts at no additional charge.

Table 5: Series 1100 System Programming Aids for both unbundled and bundled contracts at no additional charge.

The data in the tables reflects status as of this date and is subject to change as new products are released.

STAT

Director, Support and Publications
Major Systems Software

Table 1.

SERIES 1100 SYSTEM PROGRAM PRODUCTS SEPARATELY PRICED FOR UNBUNDLED CONTRACTS, BUT
PROVIDED AS PROGRAMMING AIDS FOR BUNDLED CONTRACTS AT NO ADDITIONAL CHARGE

PRODUCT NAME	TYPE NUMBER	SUP CAT	CURRENT LEVEL
APL 1100	6127-00	1	7R2
APT 1100	6134-00	1	2R1
ASCII COBOL	6153-00	1	5R2
ASCII FORTRAN	6154-00	1	10R1
ASCII MATH/STAT PACK	6168-00	1	1R1
BBASIC	6178-00	1	9R1
BCOB	6149-00	1	3R1A
BFTN	6150-00	1	2R1A
CKRS	6162-00	1	1R2
CMS	6148-00	1	7R2
CS 1100 (Note 1)	6207-00	1	9R1
CTS (Note 2)	6170-01	1	8R1
DATA	6133-00	2	9R1
DFP	6177-00	1	1R1
DMS 1100	6155-00	1	8R2A
FLIT	6203-00	1	4R1
FMPS	6174-00	1	8R1
FMPS-GAMMA	6174-01	1	8R1
GSA 1100	6165-00	1	3R1
HVTS	6147-00	1	2R1B
MACRO	6160-00	1	7R1
PAR	6161-00	1	3R1A
PCCS	6159-00	1	1R1
PCIOS	6152-00	1	4R1
PL/1	6151-00	1	9R1
PROMEGA	6205-00	1	2R2
QLP 1100	6157-00	1	4R1
QUIP	6158-00	1	4R1A
RPG 1100	6164-00	1	6R1A
RPS 1100	6156-00	1	3R2
SIMLIB	6166-00	1	1R1
SORT MERGE (Note 3)	6135-00	1	13R1
TELCON - DCP COMP MODE (Note 4)	6136-00	1	2R1B
TSS	6163-00	1	2R1B
UBASIC	6171-00	1	9R1
UTS HOST UTILITIES	6202-00	1	1R1
UTS SOFTWARE	6179-00	1	1R1A

NOTES:

1) *CS 1100 became separately priced with Level 9R1 for unbundled contracts.*

2) *CTS became separately priced with Level 8R1 for unbundled contracts.*

3) *SORT MERGE became separately priced with Level 13R1 for unbundled contracts.*

4) *TELCON Level 2R1B is provided as a programming aid only for DCP contracts. For DCP/40 and DCP/20, which are unbundled products, TELCON is a program product and is separately priced for all contracts (see Table 2).*

1

Table 2.

SERIES 1100 SYSTEM PROGRAM PRODUCTS SEPARATELY PRICED FOR BOTH BUNDLED AND UNBUNDLED CONTRACTS

PRODUCT NAME	TYPE NUMBER	SUP CAT	CURRENT LEVEL
APT 1100 LATHE	6134-01/02	1	2R1
DATA DICTIONARY SYSTEM	6176-00	1	1R1
DPS 1100	6237-00	1	1R1
IGDS	6206-00	1	1R1
IRU	6175-00	1	1R1
MAPPER	6146-00	1	28R2
PADS	6239-00	1	1R1
QLP/PCIOS INTERFACE FEATURE	6157-01/02	1	4R1
SENTRY	6167-00	1	1R1
SPELL (Note 1)	6240-00	1	1R1
TELCON - DCP COMP MODE (Note 2)	6136-00	1	2R1B
TELCON - DCP/40 PRIMARY MODE (Note 2)	6136-01	1	3R1
UNADS	6143-00	1	6R2
UNADS COMp 80	6143-01	1	6R2
UTS COBOL	6130-02	1	1R4
UTS 400 EDIT PROC	6201-02	1	1R1
LA (LOG ANALYZER)	6246-00	1	1R1

FUTURE ADDITIONS			RELEASE LEVEL
CMS 1100/DCP	6169-00	1	1R1
CMS 1100/GCS	6169-01	1	1R1
EDIT 1100 (Note 1)	6245-00	1	1R1
IMS 1100 (Note 1)	6244-00	1	1R1
IPF 1100 (Note 1)	6241-00	1	1R1
IRU VERSION II	6175-01	1	2R1
MCB	6249-00	1	1R1
RDP 1100 (Note 1)	6251-00	1	3R1
RPG II GROUP (Note 3)	6243-99	1	1R1

NOTES:

1) *Supported on 1100/60 and 1100/80 only.*

2) *See Table 1 regarding TELCON Level 2R1B for DCP contracts. TELCON Level 3R1 is applicable only to DCP/40 and DCP/20 and thus in all cases will be a separately priced program product.*

3) *RPG II GROUP includes RPG II Compiler, Auto Report and RPG II Editor.*

2

Table 3.

SERIES 1100 APPLICATIONS PROGRAM PRODUCTS SEPARATELY PRICED FOR BOTH BUNDLED AND UNBUNDLED CONTRACTS

PRODUCT NAME	TYPE NUMBER	SUP CAT	CURRENT LEVEL
ASET 1100	6503–00	2	3.0
GIFTS 1100	6548–00	1	1.0
ICES SYSTEM	6529–99	1	2.9
ICES STRUDL II	6529–98	1	2.8
ICES COGO	6529–95	1	2.8
ICES ROADS	6529–96	1	2.4
OPTIMA 1100	6107–11	1	4.1
SUFICS 1100 BASIC	6547–00	1	2R1
SUFICS/RISK ANAL	6547–01	1	2R2
SUFICS/HIER CONSOL	6547–02	1	2R2
SUFICS/SYM ED/RENUMB	6547–03	1	2R2
UNIS 1100/MDP	6510–00	1	6.1
UNIS 1100/IM	6510–01	1	6.1
UNIS 1100/PS/WOM	6510–02	1	6.1
UNIDAS 1100	6523–00	1	5R4

FUTURE ADDITIONS			RELEASE LEVEL
ICES LEASE II/SEPOL II	6529–94	1	2.0
UNIFACS 1100 ACCTS PAY	6575–00	1	1.0
UNIFACS 1100 ACCTS REC	6575–01	1	1.0
UNIFACS 1100 PAYROLL/PER	6575–02	1	1.0
UNIFACS 1100 GEN LED/BUD	6575–03	1	1.0

3

Table 4.

SERIES 1100 SYSTEM CONTROL SOFTWARE PROVIDED AS PROGRAMMING AIDS FOR BOTH UNBUNDLED AND BUNDLED CONTRACTS AT NO ADDITIONAL CHARGE

PRODUCT NAME	SUP CAT	CURRENT LEVEL
ASM	2	15R1
COLLECTOR (MAP)	1	30R1
COMUS	1	1R2
DPREP 1100	1	10R1
ED	1	16R1A
ELT	2	8R1
EXECUTIVE	1	36R2D
		37R2A
FURPUR	1	28R2
JOURNAL (1100/60 ONLY)	3	1R1
MASM	1	3R1
PDP	1	12R2
PLUS	(Note 2)	4R1A
PMD	1	32R1
SECURE	1	21R1
SSG	1	20R1
SSP SUPERVISOR (1100/60 ONLY)	1	1R2C
SYS LIB	1	74R1

NOTES: 1)   *Products marked with an asterisk are proprietary.*

2)   *Use of PLUS is limited to compiling Sperry Univac software written in PLUS. Within said limited use, level of support is category 1.*

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Table 5.

SERIES 1100 SYSTEM PROGRAMMING AIDS FOR BOTH UNBUNDLED AND BUNDLED CONTRACTS AT NO ADDITIONAL CHARGE

PRODUCT NAME	SUP CAT	CURRENT LEVEL
CML	1	1R1
C/SP	1	6R2
CULL	3	3R2
DOC	3	4R1
FLAP	3	4R1A
GPSS 1100	3	4.1
HMLOG	1	1R1
LOGFED	3	12R1
NTR	2	2R2B
NUALGOL	1	7R1
SITE/SP	2	2R1
TCS	3	2R1
UCS-RTS	1	1R1
STP	1	2R1

NOTE: 1)   *Products marked with an asterisk are proprietary.*

5

P-C 006

CSP Booting

(A) Set program time-out check disable. This switch is located in front of the C/SP in the ARRAY of SWITCHES LABELED "CONTROL". THIS IS A ROCKER SWITCH. TO SET THE SWITCH IN THE PROPER POSITION, PRESS TOP of SWITCH. THE TOP of THE SWITCH SHOULD STAY IN THE IN POSITION.

(B) SET DATA SWITCH TO CHANNEL 2. DATA SWITCHES ARE LOCATED IN FRONT OF C/SP. THEY ARE A GROUP OF 16 SWITCHES LOCATED AT THE TOP OF THE PANEL. TO SET DATA SWITCH TO CHANNEL 2, PRESS ROCKER SWITCH LABELED "2". THIS SWITCH IS THE THIRD SWITCH GOING FROM LEFT TO RIGHT. THIS SWITCH SHOULD REMAIN IN THE "ON" POSITION WHICH IS THE TOP PORTION OF THE SWITCH IN THE "IN" POSITION. ALL OTHER DATA SWITCHES SHOULD BE OFF.

(C) THE ABOVE INSTRUCTIONS TELLS HOW THE C/SP SHOULD LOOK BEFORE YOU ARE READY TO IPL.

TO IPL THE C/SP THE FOLLOWING INSTRUCTIONS SHOULD BE FOLLOWED

1. PRESS "SYSTEM CLEAR" SWITCH. THIS SWITCH IS LOCATED IN FRONT OF THE C/SP, ON THE LEFT SIDE OF THE MIDDLE ROW OF SWITCHES. IT IS A SPRING LOADED ROCKER SWITCH AND SHOULD RETURN TO ORIGINAL POSITION.

2. PRESS "LOAD" SWITCH. THIS SWITCH IS LOCATED IN THE ARRAY OF SWITCHES LABELED "CONTROL". IT IS THE 4th SWITCH STARTING AT THE LEFT SIDE AND GOING TO THE RIGHT.

"CONT"

2

THIS SWITCH IS A SPRING LOADED ROCKER SWITCH AND SHOULD RETURN TO THE ORIGINAL POSITION.

3. PRESS "RUN" SWITCH. THIS SWITCH IS LOCATED IN THE ARRAY OF SWITCHES LABELED "CONTROL." IT IS THE 1 SWITCH STARTING AT THE LEFT SIDE AND GOING TO THE RIGHT THIS SWITCH IS A SPRING LOADED ROCKER SWITCH AND SHOULD RETURN TO ORIGINAL POSITION.

ALL c/sp's ARE SET UP THE SAME.

NOW THAT YOU HAVE PRESSED THE SYSTEM CLEAR, LOAD, AND RUN SWITCHES, YOU SHOULD HAVE THE MESSAGE $\emptyset$-c/sp = CSP N '.SNDT APPEAR ON THE CONSOLE SCREEN.

THE RESPONCE TO THIS MESSAGE SHOULD BE "S" UNLESS YOU ARE INSTRUCTED OTHERWISE.

THE BREAKDOWN OF THE S,N,D,T IS:

S - STANDARD PROGRAM
N - NON-STANDARD PROGRAM
D - DUMP
T - TERMINATE

WHEN THE CSP HAS IPL'ed PROPERLY, YOU SHOULD RECEIVE THE MESSAGE: (LEVEL)
        c/sp CSP N READY-LEVEL 6R1A/B02
THE N SHOULD BE THE CSP YOU IPL'ed.

DOWN DATEX LINE ON SPARE C/SP

While the U-1110 system is running with current C/SP configuration [See note on board or change log book], you MUST run with 8/12 (spare) DOWN on S.D. system. If spare C/SP has to be IPL'ed, you must first UP 8/12 (spare) on S.D. system and DOWN 7/9 on POT system [Make sure there is no traffic on 7/9 DLT002]. IPL spare C/SP, then DOWN 8/12 on S.D. (spare) and then UP 7/9 on POT.

If 7 is spare, DN 7/9

If 8 is spare, DN 8/12

C/SP DUMP PROCEDURE

1. Hit system clear, load, run.

2. Answer console message with "D SS7IPL" or "D SS8IPL".

3. C/SP memory will dump to an EXEC Mass Storage File, and automatically be routed to a printer.

4. After the Dump completes, the console IPL message will come up again.

Answer with "S" or "N SS7IPL/SS8IPL, whichever C/SP dumped.

> NOTE: You can down and up a line to a C/SP, and it will recover okay without doing a system recovery boot. You don't lose it like a CTMC line.

3 C/SP

3.1 Introduction

This is the first release of C/SP level 5.

CSP level 5 software has new features that are enumerated below:

1) RAW DUMP AND ANALYZER PROGRAM

2) ALTERNATE CLT ALLOCATION

3) AUTO RECOVERY

4) MULTIPLE HOST SUPPORT

5) IMPROVED INTERMITTEN HARDWARE RECOVERY - ICA

6) USE OWN CODE SUPPORT

7) ERROR LOGGING

8) IMPROVED BUFFER MANAGEMENT

Some of the above features will be discussed in greater detail below:

3.2 Features

3.2.1 C/SP Dump

When the CSP is dumped, a raw core dump is generated. This dump must be processed by the dump analyzer program to produce a printed listing. The operational procedure for this is given in Section 5.3.1

3.2.2 Alternate CLT Allocation

This feature gives the 1100 operator the capability to switch to a different CLT position in the C/SP while keeping the same logical device address. This will allow the operator to replace a bad CLT with a good one without interferring with terminal operations.

3.2.3 Auto Recovery

This includes recovery from both host crashes and C/SP crashes.

If the host goes down the C/SP will notify the terminals that the host has gone down. When the host is rebooted, it sends a request to the C/SP for initialization. At this point, the C/SP software reinitializes itself and sends a ready message to the host. If the C/SP is unable to re-initialize, the follow timeout message will apear.

    SS/UU - Timeout   AG

    Where   SS = Subsystem (one with a C/SP)
             UU = Unit (usually unit ØØ)

    RESPONSE:

             A = Try again
             G = Used when C/SP is unable to re-initialize.
                 Is usually used when the operator intends
                 to manually IPL the CSP.

The other recovery feature will cause the 1100 exec to automatically reload the C/SP when the C/SP crashes.

Both of these features along with using a larger blocking factor in the load file help to reduce the recovery time required in the event of a system crash.

3.2.4 Multiple Host Support

This feature allows a C/SP to support terminals for more than one host concurrently. The terminals may select the host they wish to sign on to or the terminals may be pre-assigned to a particular host. The recovery features enumerated previously are available with the multiple host feature.

This feature is not presently configured as it requires additional hardware in the C/SP, namely a second ICA channel.

3.2.5 Error Logging

When the C/SP operating system detect errors, the logger routine gathers pertinent information and passes the information to the host where it is entered in the system log.

3.2.6 Buffer Management

There is only one Buffer Pool in CSP level 5 and it is managed by the C/SP operating system. This results in a more efficient use of memory and buffers.

3.2.7 Improved Hardware Recovery

The enhancement allows recovery from hardware errors on the ICA channel if software recovery is possible, specifically recovery from the following:

1) CAU/IOAU interface parity check interrupt
2) ICA parity interrupt

Also if logging is used, these types of errors are logged.

3.2.8 Reduced Loading Time

Since the operating system and the MCP are loaded as one unit with larger blocks, the load time is reduced.

Additional features that will not be discussed in detail are:

1) Paper Tape Support
2) Improved NTR Support
3) Disk Handler
4) DCT 1000 Hardware Batch Support

Some of the features listed above will not be available on the initial release of the C/SP software.

3.3 Changes to Operational Procedures

The only change in the operational procedures involves taking of dumps.

3.3.1 Procedure for taking dumps on CSP 5R1 Software

1) If CSP is not at a red light stop, press stop switch, then press the clear switch.

2) After time out message appears on the host, the CSP dump may be taken. Leave the timeout message on the host outstanding during the taking of the raw dump.

3) Now dump the CSP by clearing the stop switch and depressing load and run switches.

4) The following console message will appear:

O - C/SP IPL on SS 008 SNDT

and the response is

O D Filename

> Where "Filename" is the name of the File that
> was used to IPL the CSP.

5) After the dump is taken, the following messages
will appear on the host.

> C/SP ran dump taken. FNAME CSP$DUMP$OO8*XXXXXYYYY

> Where XXXXX = Date
>   YYYYY = Time

> O - SAVE? (Y or N)

> The response is:

> O Y

   After the dump is saved, the following procedure
may be used to run the dump analyzer program to produce
a printed listing of the dump.

1) Enter
ST CSPDUMP

2) Message and response to this program

O - DUMP* type of C/SP error, reason for dump.

Enter all pertinent information

O - DUMP* OPERATOR and AUTHORIZATION?

> Center operator name and name of person
>   Authorizing the dump

O - DUMP*ENTER Filename of C/SP dump to print
O - Filename

    Where "Filename" is the FNAME that was printed
    on the consol when the dump was taken.

    DUMP*ENTER C/SP IPL Filename that was load when

O - DUMP* was taken or S for standard or no if none

O - Filename

    Where "Filename" is the name of the CSP IPL File.

3.4 Changes to Programming Procedures

There are no programming procedures necessary to run on C/SP level 5.

1. INTRODUCTION

Exec level 33R1A-5H is a stability update to C/SP level 5. Testing was performed both on the unclassified Univac system and on the Development system.

2. EXEC

The only change from the 33R1A-5G system to the 33R1A-5H system is the installation of code necessary to support C/SP level 5.

3. C/SP 5

3.1 Changes Made from Previous Level of CSP 5

3.1.1

Changes to input edit routine in BSCTAR to eliminate the problem of the CSP software inserting a null character on isolated TIP inputs.

3.1.2

Changes in BSCTAR to eliminate a potential problem of sending output to the wrong station when outputing to multiple stations.

3.1.3

Changes in BSCTAR to have X7 with the SCT address set up properly when a buffer wait condition occurs.

3.1.4

Changes in BSCCCR to set a 1 sec timer on select when sent to the multiterm, in case the multiterm fails to respond to the select.

3.1.5

Changes to the BSAMDW to generate the MDW for the reverse interrupt and the wait acknowledge characters properly.

3.1.6

Changes to ICA handler to limit the size of a host output that is sent to the C/SP. This is to reduce the likelihood that the host will send an output buffer larger than the largest buffer available in the CSP.

3.1.7

Changes to BSCTAR to prevent it from requesting larger than 2k buffers on input which cannot be released back to buffer management by standard buffer release procedures. This will reduce the likelihood that buffer management will run out of buffers.

3.2 Changes in Operational Procedure

3.2.1 C/SP DUMP Analyzer

Additional messages in from DUMP Analyzer Program (Refer to Exec Release: 33R1A-5F2, C/SP 5 Section, Subsection 3.3.1, for additional information.)

CDUMP: Number of Demand, TIP Terminals and
$\emptyset$ - Other pertinent information

Operator should enter all information that would be useful in order that the analyst may reconstruct the conditions at the time the DUMP was taken.

$\emptyset$ - Software system, Session No.

Operator should enter which system and session no. so analyst will know which console sheets correspond to the time the DUMP was taken.

$\emptyset$ - If CSP Red Light, Give Address

Enter address, which is obtained by the following procedure:

Procedure for obtaining stop address on a CSP Red Light Stop -

1. A CSP timeout message on the host is often an indication that a red light stop has occurred.

2. Set display select (in upper left hand section of CSP console) to $\emptyset 1 \emptyset$.

3. Read address off of lights on CSP console.

3.2.2 DLT SIGNON

With this release, it is no longer necessary to have the DLT lines in an UP status when the C/SP is IPL'ed.

3.3 Changes to Programming Procedures

None.

3   C/SP

3.1   Introduction

This is the first release of C/SP level 5.

CSP level 5 software has new features that are enumerated below:

1) RAW DUMP AND ANALYZER PROGRAM

2) ALTERNATE CLT ALLOCATION

3) AUTO RECOVERY

4) MULTIPLE HOST SUPPORT

5) IMPROVED INTERMITTEN HARDWARE RECOVERY - ICA

6) USE OWN CODE SUPPORT

7) ERROR LOGGING

8) IMPROVED BUFFER MANAGEMENT

Some of the above features will be discussed in greater detail below:

3.2   Features

3.2.1 C/SP Dump

When the CSP is dumped, a raw core dump is generated. This dump must be processed by the dump analyzer program to produce a printed listing. The operational procedure for this is given in Section 5.3.1

3.2.2 Alternate CLT Allocation

This feature gives the 1100 operator the capability to switch to a different CLT position in the C/SP while keeping the same logical device address. This will allow the operator to replace a bad CLT with a good one without interferring with terminal operations.

3.2.3 Auto Recovery

This includes recovery from both host crashes and C/SP crashes.

If the host goes down the C/SP will notify the terminals that the host has gone down. When the host is rebooted, it sends a request to the C/SP for initialization. At this point, the C/SP software reinitializes itself and sends a ready message to the host. If the C/SP is unable to re-initialize, the follow timeout message will apear.

SS/UU - Timeout AG

Where   SS = Subsystem (one with a C/SP)
         UU = Unit (usually unit 00)

RESPONSE:

A = Try again
G = Used when C/SP is unable to re-initialize.
    Is usually used when the operator intends
    to manually IPL the CSP.

The other recovery feature will cause the 1100 exec to automatically reload the C/SP when the C/SP crashes.

Both of these features along with using a larger blocking factor in the load file help to reduce the recovery time required in the event of a system crash.

3.2.4 Multiple Host Support

This feature allows a C/SP to support terminals for more than one host concurrently. The terminals may select the host they wish to sign on to or the terminals may be pre-assigned to a particular host. The recovery features enumerated previously are available with the multiple host feature.

This feature is not presently configured as it requires additional hardware in the C/SP, namely a second ICA channel.

3.2.5 Error Logging

When the C/SP operating system detect errors, the logger routine gathers pertinent information and passes the information to the host where it is entered in the system log.

3.2.6 Buffer Management

There is only one Buffer Pool in CSP level 5 and it is managed by the C/SP operating system. This results in a more efficient use of memory and buffers.

3.2.7 Improved Hardware Recovery

The enhancement allows recovery from hardware errors on the ICA channel if software recovery is possible, specifically recovery from the following:

1) CAU/IOAU interface parity check interrupt
2) ICA parity interrupt

Also if logging is used, these types of errors are logged.

3.2.8 Reduced Loading Time

Since the operating system and the MCP are loaded as one unit with larger blocks, the load time is reduced.

Additional features that will not be discussed in detail are:

1) Paper Tape Support
2) Improved NTR Support
3) Disk Handler
4) DCT 1000 Hardware Batch Support

Some of the features listed above will not be available on the initial release of the C/SP software.

3.3 Changes to Operational Procedures

The only change in the operational procedures involves taking of dumps.

3.3.1 Procedure for taking dumps on CSP 5R1 Software

1) If CSP is not at a red light stop, press stop switch, then press the clear switch.

2) After time out message appears on the host, the CSP dump may be taken. Leave the timeout message on the host outstanding during the taking of the raw dump.

3) Now dump the CSP by clearing the stop switch and depressing load and run switches.

4) The following console message will appear:

O - C/SP IPL on SS 008 SNDT

and the response is

O D Filename

Where "Filename" is the name of the File that was used to IPL the CSP.

5) After the dump is taken, the following messages will appear on the host.

C/SP ran dump taken. FNAME CSP$DUMP$008*XXXXXYYYY

Where XXXXX = Date
       YYYYY = Time

O - SAVE? (Y or N)

The response is:

O Y

After the dump is saved, the following procedure may be used to run the dump analyzer program to produce a printed listing of the dump.

1) Enter
ST CSPDUMP

2) Message and response to this program

O - DUMP* type of C/SP error, reason for dump.

Enter all pertinent information

O - DUMP* OPERATOR and AUTHORIZATION?

Center operator name and name of person
       Authorizing the dump

0 - DUMP*ENTER Filename of C/SP dump to print
0 - Filename

Where "Filename" is the FNAME that was printed
on the consol when the dump was taken.

DUMP*ENTER C/SP IPL Filename that was load when

0 - DUMP* was taken or S for standard or no if none

0 - Filename

Where "Filename" is the name of the CSP IPL File.

3.4 Changes to Programming Procedures

There are no programming procedures necessary to run on C/SP level 5.

1. INTRODUCTION

Exec level 33R1A-5H is a stability update to C/SP level 5. Testing was performed both on the unclassified Univac system and on the Development system.

2. EXEC

The only change from the 33R1A-5G system to the 33R1A-5H system is the installation of code necessary to support C/SP level 5.

3. C/SP 5

3.1 Changes Made from Previous Level of CSP 5

3.1.1

Changes to input edit routine in BSCTAR to eliminate the problem of the CSP software inserting a null character on isolated TIP inputs.

3.1.2

Changes in BSCTAR to eliminate a potential problem of sending output to the wrong station when outputing to multiple stations.

3.1.3

Changes in BSCTAR to have X7 with the SCT address set up properly when a buffer wait condition occurs.

3.1.4

Changes in BSCCCR to set a 1 sec timer on select when sent to the multiterm, in case the multiterm fails to respond to the select.

3.1.5

Changes to the BSAMDW to generate the MDW for the reverse interrupt and the wait acknowledge characters properly.

3.1.6

Changes to ICA handler to limit the size of a host output that is sent to the C/SP. This is to reduce the likelihood that the host will send an output buffer larger than the largest buffer available in the CSP.

3.1.7

Changes to BSCTAR to prevent it from requesting larger than 2k buffers on input which cannot be released back to buffer management by standard buffer release procedures. This will reduce the likelihood that buffer management will run out of buffers.

3.2 Changes in Operational Procedure

3.2.1 C/SP DUMP Analyzer

Additional messages in from DUMP Analyzer Program (Refer to Exec Release: 33R1A-5F2, C/SP 5 Section, Subsection 3.3.1, for additional information.)

CDUMP: Number of Demand, TIP Terminals and
$\emptyset$ - Other pertinent information

Operator should enter all information that would be useful in order that the analyst may reconstruct the conditions at the time the DUMP was taken.

$\emptyset$ - Software system, Session No.

Operator should enter which system and session no. so analyst will know which console sheets correspond to the time the DUMP was taken.

$\emptyset$ - If CSP Red Light, Give Address

Enter address, which is obtained by the following procedure:

Procedure for obtaining stop address on a CSP Red Light Stop -

1. A CSP timeout message on the host is often an indication that a red light stop has occurred.

2. Set display select (in upper left hand section of CSP console) to $\emptyset1\emptyset$.

3. Read address off of lights on CSP console.

3.2.2 DLT SIGNON

With this release, it is no longer necessary to have the DLT lines in an UP status when the C/SP is IPL'ed.

3.3 Changes to Programming Procedures

None.

5. C/SP

~~CSP RELEASE DOCUMENTATION~~

~~FOR RELEASE 5R1 — XB02G~~

5.1 CSP level is 5R1 - B02G

This release has corrections to the BSCTAR to correct the timeout problem. The BSCTAR has a blocksize adjustment routine added to the TAR to prevent the "INEDIT" routine from transferring more than maximum number of characters expected by Host, thus preventing the channel hang and subsequent timeout.

Operational Procedures For Timeouts of C/SP Subsystem

There are three basic types of timeouts. These types and whether or not dumps are required, are enumerated below:

1. Timeout message on Host and C/SP at a red light stop - C/SP dump required normally.

2. Timeout message on Host, C/SP still running and terminal operations[1] proceeding normally - answer timeout message with an "A". If timeout message does not return within a short period of time, no dumps are required. However, if the timeout message returns within a short period of time, the Host and C/SP should be dumped concurrently*.

3. Timeout message on Host, C/SP still running, but terminal operations not proceeding normally - concurrent* Host and C/SP dumps are required.

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* Procedure For Concurrent[2] Host and C/SP Dumps

1. Stop Processor on Host (1110).
2. Stop C/SP and Master Clear C/SP.
3. Take Manual Dump off Host.
4. Reboot Host and take Dump off C/SP as soon as Host is back up.

Note: Steps 1 and 2 should be performed at approximately the same time to freeze the situation in the Host and C/SP, as is at the time of "TIMEOUT" occurrence.

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[1] Terminal Operations - means that terminals are operating normally, that is to say that input and output is passing through the communications system.

[2] Concurrent - means that situation being dumped represents the status of things on the Host and C/SP at the same point in time.

CSP IPL TAPE: 2940
BACKUP IPL TAPE: 2989

Microwave Outage Detection

Detection of Microwave Outage can be made by the operator very easily.
A complete outage will show up as solid input lights on the C/SPs GPCC
Panel. The indicators with DLT Lines such as the Area's 9300 is an example.
MultiTerm Lines will not show input.

Intermittent outages will show the solid input the same except that
the lights will go out on normal resumption of microwave service.

In either case the Console Operator will be aware that jobs do not
run correctly and input/output is not going smoothly. If the operator
suspects a microwave problem, he is to immediately inform his/her supervi-
sor and they in turn are to alert-first, our Commo Officer and secondly,
the OPS Officer.

1 STOP C/SP & Clear.

2 Allow C/SP to time out
and answer with T
(This should terminate all CMS
lines on this C/SP, but ~~allow them to~~
WAIT ~~be out~~ for at least 1 min. BEFORE

3. ← Switch C/SP's (IF "DN SS" is
necessary see below*)

4. ⊃ P L new C/SP on this
same Subsystem.

5. ~~~~ After C/SP is "ready,"
/ACT LT XX
for each C/SP line on this
C/SP.

*NOTE: DO NOT "DN" or "UP"
Subsystem / unit for these
CMS lines until Step 2 is
Complete. After Step 2 the
lines should free from CMS.

Page Denied

To Use Spare C/SP as SS7, SS8, or SS9 Operational System

Example - Switch SS7 to Spare

1. Clear and Stop SS7 and the Spare C/SP

2. In transfer SW cabinet:

   Set transfer switch to "I𝟢 or 1-SS7 SPAR"

3. At the T-Bar Control Panel in the New Patch Panel (U-494 Room), insert the key provided into the CSP switch for the CSP subsystem you wish to switch out of the system (CSP7, CSP8, or CSP9). By turning the key to the right 1/4 turn, the spare C/SP will be substituted for any one of the operational CSP's. This key must remain in the switched position until you wish to again return to standard CSP configuration.

4. IPL the spare C/SP. It should be IPL'ed as the one being replaced on the Operational System.

To Remove the Spare C/SP from the Operational System and Use the Standard C/SP SS7:

1. Clear and stop SS7 and the spare C/SP.

2. Set transfer switches as desired.

3. Reverse Step 3 - Turn key left and remove.

4. IPL C/SP7 - It should IPL as SS7 on Operational System.

SECRET

PSG/CSD-407/77
18 November 1977

MEMORANDUM FOR THE RECORD

SUBJECT: Processing of ESD Traffic

1. (S) During the past several months, we have experienced difficulty,
on several occasions, in processing ESD traffic from   The problem   25X1
centered around missing segments within the message header. Despite
numerous tests conducted by myself and Univac SA's, following each such
occurrence, we were unable to duplicate this problem. Finally on 19
October 1977, this situation occurred again, but with some consistency,
at least long enough to capture an erroneous ESD on a Data Scope tape
cartridge. After considerable analysis of all data captured between
the CSP and   Univac 9480 System on this data; it was discovered   25X1
that   failed to repeat Segment 2 of the message following a Wait   25X1
Before Transmit (WBT) response from our CSP front end. Normally the
WBT response informs the other end that the data block was received good,
cannot be processed at this time, and must be repeated again   25X1
            Coordinated and approved by CSD, DATEX   25X1

2. (S) On 28 October 1977, I met with   Systems Software,   25X1
Area G/C. During this meeting, we replayed the tape of the erroneous
ESD for further analysis.   agreed that Segment 2 was not   25X1
repeated by   in accordance with the ICD.   will investigate   25X1
possible causes and contact me on corrective action and for any test
sessions needed to identify and correct this problem.

3. (U) The existing work around at NPIC is to ask   to re-   25X1
initialize the line (RECYCLE DLT001), and ask for a retransmission of the
same message.   G   U9480 COMPUTER   25X1
                                      ERROR   25X1

Systems Engineering Branch
CSD/PSG/NPIC

Distribution:
    1 - CMO
    1 - CH/SDB
    1 - SEB File

SECRET

ADMINISTRATIVE-INTERNAL USE ONLY

SPEED LETTER	REPLY REQUESTED	DATE 7 April 1978
	YES / XXX NO	LETTER NO.

0

TT

STAT

In order to determine the cause of the CSP timeouts, more information is needed. The following procedure should be followed after each CSP timeout. If it is quickly executed, it will not significantly increase the recovery time.

1. Do not answer the timeout delay message.

2. Inspect CSP. Are any indicator lights blinking? If so, note the GPCC and *INDICATOR* number for use later when asked for by CSP dump program.

3. Keyin on the 1110 console "DU_MP" for an on-line EXEC dump. Do not at this time mount the tape. Go immediately to step #4.

4. *STOP* Master clear the C/SP. *SAVE PANIC DUMP ON TAPE, ETC.*

5. When the message "Panic Dump taken" comes out, take a CSP dump.

6. Answer "T" to timeout message. *AFTER CSP DUMP COMPLETES.*

7. IPL the CSP.

	SIGNATURE
REPLY	DATE

8. Assign all lines on CSP. If CMS errored, reload CMS and turn schedule on.

9. Mount tape and write EXEC dump to tape.

10. Print the CSP dump. Enter all known information when asked for.

11. Hold EXEC dump tape until requested to print. Put tape number on CSP dump listing.

Systems Engineering Branch

SIGNATURE

ADMINISTRATIVE-INTERNAL USE ONLY

STAT

FORM 5-67 1831   USE PREVIOUS EDITIONS

SPEED LETTER	REPLY REQUESTED		DATE 11/23/77
	YES	NO	LETTER NO. /

TO

ATTN

STAT

FIXES WERE PUT IN THE C/SP SOFTWARE
ERL TO CORRECT THE PROBLEM OF C/SP
TERMINATION WHEN PLOTTER SS/U WAS DOWNED

LEVEL : ERI~ YB02H
└ SUBSYSTEM NO.

IPL TAPE: 2941
BACKUP : 2946.

STAT

IT WAS PUT UP ON
DEVELOPMENT ~ 350 11/22/77

REPLY	DATE

SIGNATURE

~~This release in intended for the OPERATIONAL system only~~

The 33A1A-5K1 level Exec is intended for release on the Operational System only. ~~All CCF's which have been documented in the~~ ~~33A1A-5I1, 33A1A-5J, and 33A1A-5J1~~ ~~have been included in System Release Documents~~ ~~33A1A-5I1, 33A1A-5J, and 33A1A-5J1~~ ~~have been included in this release.~~

All CCF's which have been incorporated in the Exec levels 33A1A-5I1, 33A1A-5J, and 33A1A-5J1 and documented in the respective Systems Release Documents have been included in 33A1A-5K1.

31 July 1979

SUBSTITUTING SPARE C/SP

When substituting spare C/SP for CSP7, CSP8, or CSP9, perform the following in the Patch Panel:

CSP7 - Remove all plug wires in the CSP7 Section.

CSP8 - Remove all plug wires in the CSP8 Section -
    EXCEPT: 8B30 - DEV. CMS #50
              8B32 - DEV. CMS #52

CSP9 - Remove all plug wires in the CSP9 Section -
    EXCEPT: 9A50 - D. DATA TEST LINE
              9A49 - D. DATA TEST LINE

*NOTE: ANYTIME THE SPARE CSP IS BEING USED FOR CSP7, CSP8 or CSP9, THE COMPUTER ROOM CLUSTER (7B30 PLUG) CANNOT BE PLUGGED IN FOR DEV. SYSTEM USE.

STAT